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[00:00:00] **Nate Hagens:** Good morning this year, the plan is to spend more time articulating the various and increasingly relevant to our lives, responses to the more than human predicament. But before that, I'll need to dive into the various scenarios and possibilities ahead of us, current theories of change and what they're missing, probabilistic planning, shortfall risk.

[00:00:24] And only then the broad categories of interventions and associated, subcategories. But today's topic underpins and precedes all these. And is a deep one, and therefore a long one, but also foundational

[00:00:55] On a recent, frankly, I asked why is it that most people day-to-day feel more pro-social than the picture of humanity that is currently formed from our media? And institutions and the recent Jeffrey Epstein files. And yes, part of the answer is that once systems scale, a small minority with dark triad traits can shape institutions and outcomes for broader society.

[00:01:22] But is that it? I've started to think a lot more about scale itself and about the patterns and drivers that show up once populations more from small to large. To currently huge, over 8 billion. A lot of my earlier work, gulp 20 years ago now focused on the behavior of individual human beings and small groups, steep discount rates, cognitive biases, super normal stimuli addiction, social status, ingroup, outgroup bias, and, and the like.

[00:02:00] These are important to understand, especially for recognizing and maybe steering our own personal behaviors. However, the behaviors of individuals in small groups have decidedly different dynamics than large groups of humans in the millions or billions. The 21st century interconnected crises that

we discuss on this platform are not emerging because humans suddenly became stupid or lazy, or especially malicious at civilization scale.

[00:02:30] The same traits that helped our tribal ancestors coordinate survive. Adapt, start to destabilize the systems that we depend on. And I'm beginning to view this story as kind of a species level. Phase shift humanity at small scales is Dr. Jekyll, but humanity morphs into Mr. Hyde once scale, exceeds some inflection point.

[00:03:00] So today, to illustrate the effects of this difference in scale, I'm gonna outline three distinct layers of the more than human predicament. First are the problems. We can see the symptoms. Second, the recurring systemic patterns that produce the symptoms. And third, the focus of today's episode is the deeper forces driving.

[00:03:26] And locking those patterns into place. I think if we don't separate these layers in our conversations, we end up talking past each other quite often, even when we might agree on the values and the stakes, and when we often attempt to fix symptoms while quietly reinforcing the same dynamics that produce them, that ends up not being the best path forward.

[00:03:51] And along the way, I'm gonna say some things that may sound. Provocative at first. a lot of our familiar labels like capitalism or patriarchy or colonialism describe real harms, real phenomenon, but they're often describing downstream expressions, and I'm trying to hear a point at the deeper machinery underneath.

[00:04:17] So I'll start with the symptoms before we go underneath the patterns and lastly, the drivers. Okay, so these are the issues front and center in the Metris zeitgeist and issues that most of the TGS community is well aware of. So I'll be

super brief here. Global heating, biodiversity loss, soil degradation, currently exceeding seven of nine.

[00:04:36] Planetary ecological boundaries, rising inequality and poverty at the same time all time. Stock market highs, geopolitical tensions and war polarization, attention fragmentation and psychological strain, widespread depression, anxiety, loneliness, and, and more. And now AI and, and all of its impact on all those other things.

[00:05:00] These are usually treated as separate issues with different vocabularies and different experts championing each of them, but in practice, they arise together and accelerate together. And though we don't often see it, their solutions often push against one another. This list, and you all know it's much longer than what I just summarized, is what I'm gonna call here the symptoms.

[00:05:28] In the diagnostic sense because calling them symptoms is a way for us to admit that something deeper is driving them. A final caveat worth naming explicitly in this, preamble is that there are biophysical constraints under all these phenomenon that are non-negotiable, such as. Energy and materials have biophysical costs.

[00:05:53] Net energy matters more than gross. Feedbacks in the natural world are delayed and often initially unknown. Decline in both natural and human systems tend to be much faster than the ascent on the way up. These phenomenon and many others are features of physics and ecology. We've talked about these a lot and won't today, but every human system, markets, technologies, institutions is bounded by those constraints, whether we design what them in mind or learn them the hard way later.

[00:06:26] Okay, so we started with the symptoms that sets up the more interesting questions. Why these symptoms and problems? Why do they show up

together and why now? So when we zoom out across history and across societies, the same kinds of outcomes and cycles keep appearing. Today, I am gonna label these recurring outcomes as systemic patterns.

[00:06:52] Once you start looking for them, they show up again and again Across cultures and different political systems, these patterns are not accidents. But neither are they human moral failures, which I'll probably stress again in this video. I am objectively describing human behavior in large groups, not complaining about it or blaming, describing.

[00:07:19] I'm gonna name six of them here. The list is, probably not exhaustive, well, definitely not exhaustive, but when, when combined, they explain much of what we are seeing in 2026 right now. The first pattern is power law concentration in many systems in both the natural and human worlds outcomes do not distribute evenly.

[00:07:40] In fact, they do the opposite. They concentrate in ecosystems. A small number of species capture most of the energy flow. Forest, a few of the large trees intercept most of the sunlight and in turn hold most of the biomass. In river basins, most water ends up moving through a handful, a small percentage of channels.

[00:08:06] This is all akin to something that many of you, have probably heard of the 80 20 rule where 20% of the inputs in a given situation are responsible for 80% of the outcomes. This same geometry expresses itself in human systems. A small number of firms capture most of the profits. A small number of social media platforms capture most of the attention.

[00:08:29] Small number of countries capture most of the surplus energy and materials. Sociologists call this the Matthew Principle, after a biblical passage about the rich getting richer. And it's based on the idea that initial advantages

tend to compound due to feedback loops. Those who start with more tend to end up with more.

[00:08:52] and those who start behind fall further behind. Not because of malice per se, but because systems amplify early differences. Once scale enters the picture and the systemic power only compounds from there. And as we'll see, once this power law concentration sets in, it reshapes everything downstream.

[00:09:14] Okay. The second pattern is overshoot and depletion. Overshoot is an ecological phenomenon that describes what happens when a population grows beyond the long-term carrying capacity of its environment. That usually happens because the population found a way to draw down stored stocks instead of living within regenerative flows that renew on a daily or or seasonal cycle.

[00:09:38] Think, accessing groundwater instead of rainfall or. Fossil hydrocarbons instead of daily sunlight. And for a while it all looks like success, but eventually a bill arrives. The ecosystem can stay at a certain scale only by continuing to draw down stored stocks. Depletion follows when those stocks are reduced faster than the flows that rebuild them.

[00:10:05] And when that happens, the system can no longer support the scale it once achieved. Commonly used. Examples of overshoot are the reindeer on St. Matthew Island or the Atlantic Cod fishery on the East coast, but there are lots of them. Okay. Third are arms races and arms Race happens when one person or player or corporation or nations upgrade.

[00:10:32] Forces everyone else to upgrade, just to maintain their position. And once one actor adopts a powerful new capability, others feel they must respond in kind. Not because they want to escalate, but because standing still or ignoring the new capability on the game board becomes too, risky. This shows up, in militaries in corporate competition very clearly.

[00:10:58] Now, in, in ai, in finance and, and even in, in resource extraction, even actors who strongly prefer restraint eventually end up participating because opting out carries huge and sometimes existential penalties. Arms races are not caused by bad actors. Only by the very social primate fear of falling behind.

[00:11:26] And then they lock systems into trajectories that are then really hard to exit. This, explains a lot. Okay. Fourth. Rebound effects and Jevons paradox. I've discussed this pattern many times. so here's a very quick review. When we make something more efficient, there's a natural expectation that this will result in us using less of it, but in large, interconnected economic systems.

[00:11:53] Efficiency lowers cost, which often expands use and demand for those who previously wouldn't be able to afford it. And it also frees up surplus to be spent elsewhere in the system. Modern. Cars get more fuel efficient, but then we drive farther and in bigger cars, faster logistics and cheap shipping made it effortless to buy one small thing at a time.

[00:12:18] So we end up placing more orders and more brown trucks show up in the driveway. Efficiency improvements from technology and innovation don't automatically slow systems down. And quite often they actually speed them up and these rebound effects get bigger as the nodes in the system increase. Okay, next, pattern tragedy of the common.

[00:12:45] Many of the most important challenges we face require coordination across large groups, climate. Oceans, weapons control, AI alignment, financial stability, lots of them. The problem is, is that the short-term incentives facing individual humans, firms and even nations, rarely align with the outcomes that would benefit the long-term wellbeing of society or, or the biosphere as a whole.

[00:13:15] And here's the key point. Acting responsibly feels like a cost. Others don't also act responsibly in, in a game theory sense. defection and selfishness in

so many domains actually feels rational to us in the short run. And the result is that then trust erodes making further defection. Even more likely, each actor protecting themselves.

[00:13:46] In isolation ends up degrading the shared system that everyone depends on. This is the tragedy of comments expressed at scale, even when most participants understand and care about the problem, systems drift towards outcomes that none of us explicitly want or, or choose. Okay? The six pattern is Simplification.

[00:14:11] As systems grow more complex, optimized, and, and interconnected, they also become more fragile 'cause they require more energy, tighter coordination, and fewer interruptions just to keep functioning at that high level. This is sometimes called complexification, a concept made famous by historian Joseph Tainter.

[00:14:36] Joe was, an early guest on this podcast. If you want the longer version, I recommend his episode. When shocks arrive or resources, tighten with constraints that built complexity now becomes a liability. Systems respond by shedding what they can no longer support. In nature, ecosystems lose species and complex life.

[00:15:01] In the human system. Institutions narrow and cut back on services. economies lose diversity and optionality on both jobs and goods and services. Simplification is what happens when a system can no longer afford its current complexity. And this has shown up again and again in both natural and human systems.

[00:15:22] And given the scale and interdependence of the modern human project, any Simplification ahead is unlikely to be minor. which is why I insert the adjective great, before I use it. Okay. Those are the six systemic patterns, power,

law, concentration, overshoot and depletion, arms races, rebound effects, collective action breakdown and Simplification.

[00:15:47] But these patterns are the what happens. They don't explain why they keep happening. To understand why they keep appearing across cultures and technologies, we need to drill down to a deeper level. but before I go there, there's a critical context shift I wanna highlight that's relevant.

[00:16:11] Many podcast guests on The Great Simplification has said it in various ways. John Gowdy, Lecy Crawl, Luke Kemp, Joe Tanner, many, many others actually, that there was a distinct phase change in how human behavior expressed itself before and after agriculture. For most of our history, the traits that made humans successful were the exact same traits that kept us in balance.

[00:16:38] With each other and with our natural surroundings. In small groups, our instincts worked as checks and balances rather than as accelerants. Social status was earned face-to-face every day. Power, existed, but it was visible and it was bounded by the tribe and resource use was constrained by our muscles, time and proximity to the things that we were doing.

[00:17:09] And the consequences from our actions arrived quickly enough that we could learn from mistakes. So small scale in our ancestral environment acted like a throttle or a muzzle on aggregate human behavior. It limited how far our errors, could travel, but scale changed this. As stable climate and agriculture enabled human systems to grow larger, faster, and more interconnected, these adaptations and instincts didn't disappear.

[00:17:42] They stayed with us and were amplified. And when that amplification outgrew restraint, the entire character of the human and global ecosystem changed. And again, this was not a moral failure per se. A profound phase shift for

our species, homo sapiens, a Jekyll and Hyde moment from Dr. Jekyll at small tribal scales to Mr.

[00:18:11] Hyde at larger population scales. Okay, with that context, we can talk about the deep drivers underneath these patterns. The first deep force is what EC colleges call the maximum power principle. I've talked about this before and quite a bit recently, so I'll keep it short. Across biology, ecology, and human Systems, there is a recurring tendency systems that capture and use energy more effectively tend to outcompete those that don't when, when in competition, plants that grow faster, shade out.

[00:18:46] Others, animals that secure more energy reproduce more successfully. Societies that mobilize energy at scale tend to dominate territory, production, and influence and win wars as one example. For most of human history, this tendency operated inside pretty tight constraints with small groups, low energy, density.

[00:19:10] Little to no storage with immediate feedbacks to their actions. So maximizing power express itself as local adaptation, not as a runaway economic Superorganism. And this matters, I think because humans didn't suddenly, with the advent of agriculture say, I think we should now maximize power. We were always doing that.

[00:19:33] What changed was that the historic breaks on our behaviors and actions were removed. And once fossil fuels entered the picture, this biological tendency went into overdrive. And suddenly our success wasn't constrained by our muscles or land or, or the seasons. It was constrained only by our access to dense, concentrated energy and our ability to build more machines and networks that could deploy it.

[00:20:02] Economic growth, military power and technological expansion now all became expressions of energy throughput. And here's the key. Maximum power never asks whether the system is wise. It doesn't ask whether outcomes are sustainable. It doesn't choose for long-term stability. Such questions or goals aren't, aren't really even on the menu.

[00:20:26] It merely rewards speed, scale, and advantage in the moment. And importantly, no one designed it that way, but systems that didn't follow this path were outcompeted by those that did. And once societies organized around that logic, the maximum power principle acts like gravity. everything else tends to.

[00:20:47] Bend around it and towards it, power concentrates, feedback, stretch out, in time and social group identities harden, and people's time horizons shrink. You might be asking, how does this relate to the 80 20 rule? And I suggest maximum power explains the drive towards more throughput. And the 80 20 pattern describes how gains and leverage concentrate.

[00:21:17] Once things scale. Okay, a second driver. A really critical one is what I'm gonna label here. Hierarchy drift. But before I describe it, here's the point. I'm making a lot of, the isms, that we argue about are real, but they're actually downstream. They're what power looks like. Once it scales, I'm aiming at a deeper layer at the conditions.

[00:21:47] Continue to produce these dynamics in small groups. Hierarchy was temporary and contextual. Someone in the group led a hunt, someone else knew plants, someone, mediated conflict, social status back in the day moved based on the situation and human authority shifted with the task. Importantly, if someone abused power, the cost were immediate and personal.

[00:22:18] But at larger scales that changes because surplus can be stored. Power can then persist beyond a season or, or even a generation and individual control

then detaches from an individual human's contribution to the broader group. And once that happens, the selection pressures shift. Systems stop selecting primarily for competence and begin selecting for strategies that win status and control.

[00:22:48] Then power can be held onto rather than constantly daily renegotiated in small groups, coercive behavior is really expensive. People see it and they respond. But at scale it can be profitable 'cause the costs are born outside of the core group and the individual and also at a later time. So the traits that would've gotten you pushed out of, of your camp start to look like leadership.

[00:23:16] If the metrics reward, domination, persuasion, and risk taking without associated accountability. And a small minority can steer outcomes once they control the socioeconomic choke points, and then control over resources leads to control over narratives. 'cause the ability to insulate oneself from feedback is critical.

[00:23:44] Because of a whole bunch of negative consequences were to show up immediately and the group would handicap or even eliminate the current power holders. So this is what I mean by hierarchy drift. Luke Kemp's book, Goliath's Curse, talks about. A similar phenomenon. Over time, people in institutions in control become less exposed to consequences of their action.

[00:24:10] And once this dynamic sets in, it reinforces itself. Those with power, shape the rules, rules that favor accumulating more power. And gradually, and then suddenly the system began selecting for dominance rather than stewardship. Cue the dark triad phenomenon and advantage, and the agricultural, industrial, and perhaps artificial intelligence revolutions.

[00:24:39] And in this layer. patriarchy and colonialism and, and things like that typically show up as downstream expressions of what I'm calling here. Hierarchy

drift. They're real. I'm sitting there downstream of something more fundamental. A hierarchy drift isn't unique to modern capitalism or any single political system.

[00:25:02] You see it historically in empires. Corporations, bureaucracies, religious institutions anywhere scale and stored surplus allow power to persist. Power then stops being a temporary tribal role and starts behaving more like property. Again, you don't need evil intentions for this to happen. Okay, another core driving force, which I think synergizes with hierarchy drift, is delayed and distorted feedback in small human systems.

[00:25:42] Feedback used to be fast and. Pretty obvious if you over hunted your area, the game disappeared. If you poisoned the stream, people in your village got sick. So actions and consequences stayed pretty closely tethered, to allow for learning, and course correction. But again, scale broke that relationship.

[00:26:05] As societies grow larger and more complex actions and their consequences. Get routed through systems instead of being felt directly. causes become harder to trace, and then responsibility is, is harder to, assign. For example, we burn fossil fuels today and most of the warming will show up decades and centuries later.

[00:26:33] We degrade soils now and see yield losses, generations down the line. We throw something in the garbage. We have no idea where the trash ends up or what pollution it causes in Indonesia or somewhere. And when the true signal arrives, the system that caused the damage is often already locked in. And this is how systems drift into overshoot without anyone intending it.

[00:27:02] And furthermore, distortion of the signal matters as much as delay. Information travels upward through layers of institutions, and incentives and and narratives before it actually reaches the decision makers. So the real signals get softened and. Filtered out entirely, at times. And what reaches the top is rarely

the full picture because it's been sanitized and simplified and as we see everywhere today, purposely optimistic in most situations.

[00:27:44] And because modern systems are tightly coupled, small distortions. Propagate into large errors, and then decisions get made using inaccurate information, and by the time the intervention becomes obvious, the cost of course correction at that point is much higher. So delayed feedback removes the natural breaks that once kept human behavior within bounds and distorted feedback removes the clarity needed to respond effectively even when the problems are visible.

[00:28:18] And together they allow accumulation, pollution and expansion to continue long past the point where restraint would've been feasible and appropriate. You can see how this force interacts directly with what I just described as hierarchy drift, because the further decision makers are from consequences, the weaker the corrective signals become.

[00:28:44] Okay? The next core driver is how humans divide the world into us and them. And that instinct is of course, ancient in small ancestral groups that ensured our survival. And at that scale, it often supported essential. Cooperation, which is why oxytocin isn't only a love chemical, but it's an ingroup versus outgroup, turbocharger and at large scales.

[00:29:12] The expression of all this instinct changes as societies grow beyond face-to-face relationships. Identity replaces what trust and feedback used to do back in the day. And group membership becomes a shortcut for judgment, and pretty soon loyalty starts to matter more than accuracy. And then as systems scale competition between groups intensifies.

[00:29:41] Nations companies, political identities, I ideologies platforms, lots of places, and each group optimizes for its own position inside a shared system, and

costs get pushed outward. Then the responsibility gets diluted, which channels directly then into arms, races and tragedy. The commons dynamics.

[00:30:08] Global heating is a clear and obvious example as are, fisheries. Nuclear weapons build up. Most humans are smart. We see the collective danger, but instead of wisdom or coordinated response. The first questions quickly becomes, says who or who's gonna pay for it, at whose expense? So decisions increasingly first get filtered through identity before they're filtered through evidence.

[00:30:42] And this instinct also shapes how information is processed. Signals that threaten one's group identity get discounted and warnings from outside the group are pretty much ignored or dismissed and scientifically grounded. Risks then become harder to stomach than. And reassuring stories in, in your group.

[00:31:06] And these all make it impossible to comprehend the nuance, depth, and complexity of the more than human predicament. Thus, entire societies can understand a problem in theory and still fail to act. Our instincts never changed the scale. Did. Okay. The next, and next to last driver is how humans value time.

[00:31:36] As biological animals, we discount the future heavily. and this made sense for most of our 300,000 years as a species. If you lived in a small group with high mortality and real uncertainty, prioritizing the near term was adaptive, that instinct still exist. But once society scale, this time bias has big downsides.

[00:32:00] Modern systems prioritize short-term gains over long-term viability. Quarterly earnings and election cycles matter more than ecosystem health or infrastructure Maintenance and immediate brain stimulation matters more than reading or working out or meditating. For example, and then decisions that look rational in the moment, accumulate into outcomes that over time are unstable.

[00:32:31] As you can already guess, this shows up everywhere. Overfishing outweighs restraint because the fish that you leave today might be caught by someone else tomorrow. Extraction. Outcompete stewardship because the payoff to leaders is faster today and more certain at the individual level. Steep discount rates feel normal and even logical, but at the system level, they slowly, hollow out the future.

[00:33:01] And this time mismatch creates a skew towards short-term optimization, even when most people increasingly understand the long-term consequences. This is different from delayed feedback I mentioned earlier. Delayed feedback is about when the consequences arrive. Time bias is about how we value the consequences versus the cost, and together they form a powerful.

[00:33:29] Social trap is my PhD advisor. Robert Costanza calls them and they synergize with all the other core drivers I've outlined. Okay, last but definitely not least, is a driving force that's been normalized for so long. it feels invisible to most of us. It's how narrowly we define us at large scales.

[00:33:55] Simultaneously with power solidifying and accumulating as scale increases, our sense of being part of nature culturally tends to shrink because power is not only over other nations and competitors and other humans, but also dominion over the natural world. Dr. Jekyll loved nature. Mr. Hyde does too, but primarily has cheap inputs and waste sinks on spreadsheets.

[00:34:26] In physical terms, functioning ecosystems, demonstrably are the largest asset on any civilization's balance sheet. Our institutions today just don't know how to count them, so when energy materials, or or human attention are allocated, the living world culturally and economically is treated as static.

[00:34:50] Infinitely available. And as I've discussed many times, politically silent. And once that boundary is in place, it's hard to remove because drawdown of

shared resources becomes rational and, and growth requires ecosystem liquidation. As most of you are now aware at Civilization scale, the living world is absorbing this damage quietly.

[00:35:18] Until it no longer can, and when the pushback finally arrives, it too will likely arrive at scale. Where does this leave us other than a bit depressed, perhaps you might disagree with the specific symptoms or patterns or drivers I've just outlined, but I do think separating the more than human predicament into these layers is useful regardless because it helps us avoid arguing at the wrong level.

[00:35:48] The truth is, despite our situation, none of the forces I've described here are bugs in the human system. They're extensions of traits that helped us survive and cooperate for most of our history. And this is where the Jekyll and Hyde framing is important. I think, in small groups with visible consequences and tight feedback, our instincts kept us more or less in bounds.

[00:36:16] Again, power was negotiated, status was earned, and the mistakes stayed local. That was our. Homo Sapiens, Dr. Jekyll phase, the scale increased energy, abundance skyrocketed. Tools began to outlast human relationships, and those same instincts stopped being self-limiting. Power could be accumulated instead of renegotiated stories, including algorithmic and AI ones replaced.

[00:36:48] Lived experience and complexity obscured the consequences. That's our Mr. Hyde phase, and I could argue we are in late stage, Mr. Hyde phase at the moment, and again, for the third or fourth time, Mr. Hyde is not evil. He is what happens when ancient instincts operate inside systems that move faster and reach farther than our moral intuitions were shaped for, and the ground we're standing on today is one where Mr.

[00:37:18] Hyde, for our species, has slowly, but firmly taken the wheel. That's a very different situation than most of our current solution narratives. Assume.

Okay. this has been long. And perhaps a bit of a downer, but I want to close with a few questions to consider. Are we trying to solve the right layer of the problem or are we repeatedly optimizing on the symptoms while reinforcing the forces underneath?

[00:37:51] What if what I've presented here is generally correct? What would it mean to design systems that recognize and assume human fallibility rather than human virtue? Systems that work even when people are tired and scared and status seeking and short-term oriented. If many of our hardest problems come from instincts that once helped us survive, what does responsibility mean at a civilizational scale?

[00:38:18] Not blame or guilt, but responsibility. E, how do we build systems where our ancestral Jekyll traits can persist? Even as scale is very large, we've seen partial answers in Mon Dragon Cooperative Enterprises, in common space resource management, and in those cultures that deliberately shorten feedback loops.

[00:38:45] But are those answers necessarily fundamentally local or might there be a way to carry them forward without scale phase, shifting them back into Mr. Hyde? What does agency look like when no one is really in control? But dark triad types are the gatekeepers of our social structures, which we got a full window into with the Epstein situation.

[00:39:10] What kind of agency is still available to the rest of us? This is actually a big one that I'm gonna be diving into, this year. I, I have some tentative answers or responses. Maybe the hardest question is this, if understanding these forces doesn't give us a steering wheel, but it does give us better breaks.

[00:39:36] When do we choose to slow down and how, or do we only respond after the crash? Lighter fare ahead, my friends. well mostly, but I had to get this outta my system. I hope you're all well next week, shorter, frankly.